

Mayo

1633

PAGE: 1

# RAW SEQUENCE LISTING

## PATENT APPLICATION US/09/303,232A

DATE: 12/10/1999

TIME: 15:54:32

Input Set: I303232A.RAW

This Raw Listing contains the General Information  
Section and up to first 5 pages.

ENTERED

```

1  <110> APPLICANT: Bayer Aktiengesellschaft
2  <120> TITLE OF INVENTION: Nucleic Acids which encode
3      insect acetylcholine receptor subunits
4  <130> FILE REFERENCE: Le A 33 020-Foreign Countries
5  <140> CURRENT APPLICATION NUMBER: US/09/303,232A
6  <141> CURRENT FILING DATE: 1999-04-30
7  <150> EARLIER APPLICATION NUMBER: DE 198 19 829.9
8  <151> EARLIER FILING DATE: 1998-05-04
9  <160> NUMBER OF SEQ ID NOS: 6
10 <170> SOFTWARE: PatentIn Ver. 2.1
11 <210> SEQ ID NO 1
12 <211> LENGTH: 2886
13 <212> TYPE: DNA
14 <213> ORGANISM: Drosophila melanogaster
15 <220> FEATURE:
16 <221> NAME/KEY: CDS
17 <222> LOCATION: (372)..(2681)
18 <400> SEQUENCE: 1
19      ggcacgagaa aaagttgtgg tataaacttt tattgtagga aaacgcataa aaataataga 60
20      aaaacgctct tcgggttgta aagaaaataa gaagacaaaa gaaagacatg aaaacgttgc 120
21      aaacaataaa gcatatactt gccatattga tataaaggga aatcgtgaaa aggcggtgaa 180
22      aatttcgtaa gattagttgg tattaagggc agcccatgca cacagctaaa aagggaacta 240
23      aaaaaacccc gcacagaaca atgaaagctg cagcagctgg ataaggccga caaaaccgaa 300
24      aattatatta ttgtaatcta gtagagagca gacaacatat ccgctggcaa caaccaacac 360
25      cgaaagagac t atg aaa aat gca caa ctg aaa ctg act gaa gtt gac gat 410
26      Met Lys Asn Ala Gln Leu Lys Leu Thr Glu Val Asp Asp
27      1 5 10
28      gat gag ctg tgg ctg gca gta aga tta gcg cac tgc agc agc aac ttt 458
29      Asp Glu Leu Trp Leu Ala Val Arg Leu Ala His Cys Ser Ser Asn Phe
30      15 20 25
31      agc agc agt agc agc aca aga acc acc agc agc aac cag agg cac aac 506
32      Ser Ser Ser Ser Ser Thr Arg Thr Thr Ser Ser Asn Gln Arg His Asn
33      30 35 40 45
34      cag caa ctc aca aca ctg caa cca agg agc tta agt aca aaa cac cac 554
35      Gln Gln Leu Thr Thr Leu Gln Pro Arg Ser Leu Ser Thr Lys His His
36      50 55 60
37      agc aac att gca agc gag cag cac aat agc cag caa cag gag cca gca 602
38      Ser Asn Ile Ala Ser Glu Gln His Asn Ser Gln Gln Gln Glu Pro Ala
39      65 70 75
40      tcg aag gac gag gat gta gcc aac cac ggt aga agc aat gac cag cag 650
41      Ser Lys Asp Glu Asp Val Ala Asn His Gly Arg Ser Asn Asp Gln Gln
42      80 85 90
43      acg cat ctg caa cag cta gac agc agc aac atg ttg tcg cca aag aca 698
44      Thr His Leu Gln Gln Leu Asp Ser Ser Asn Met Leu Ser Pro Lys Thr

```

PAGE: 2

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/303,232A

DATE: 12/10/1999

TIME: 15:54:32

Input Set: I303232A.RAW

45	95	100	105	
46	gcc gca gca gca act gct gcc ggc gat gaa gca aca acc caa caa cca	746		
47	Ala Ala Ala Ala Thr Ala Ala Gly Asp Glu Ala Thr Thr Gln Gln Pro			
48	110	115	120	125
49	aca aac ata aga ctg tgt gca cgc aag cga caa cga ttg cgt cgc cga	794		
50	Thr Asn Ile Arg Leu Cys Ala Arg Lys Arg Gln Arg Leu Arg Arg Arg			
51	130	135	140	
52	cga aaa aga aaa cca gca acc cca aac gaa aca gat atc aag aaa caa	842		
53	Arg Lys Arg Lys Pro Ala Thr Pro Asn Glu Thr Asp Ile Lys Lys Gln			
54	145	150	155	
55	cag caa ctt agc atg cct ccc ttc aaa acg cgc aaa tcc acg gac acc	890		
56	Gln Gln Leu Ser Met Pro Pro Phe Lys Thr Arg Lys Ser Thr Asp Thr			
57	160	165	170	
58	tac agc aca cca gca gca aca acc agc tgt ccg aca gcc acc tac atg	938		
59	Tyr Ser Thr Pro Ala Ala Thr Thr Ser Cys Pro Thr Ala Thr Tyr Met			
60	175	180	185	
61	caa tgt cga gcc agc gac aat gag ttc agt att ccg ata tcg aga cat	986		
62	Gln Cys Arg Ala Ser Asp Asn Glu Phe Ser Ile Pro Ile Ser Arg His			
63	190	195	200	205
64	gat aga gta tcc acg gcc aca ttc gcc tgg gtg ttg cat gtg ctg cag	1034		
65	Asp Arg Val Ser Thr Ala Thr Phe Ala Trp Val Leu His Val Leu Gln			
66	210	215	220	
67	gtg ctg ctc gtg tcg ctg caa cag tgg caa ctt cac gtg caa cag cga	1082		
68	Val Leu Leu Val Ser Leu Gln Gln Trp Gln Leu His Val Gln Gln Arg			
69	225	230	235	
70	tcg gtg cta ctg ttc aga agg atc gca gcg agc acc atc gcc ttc att	1130		
71	Ser Val Leu Leu Phe Arg Arg Ile Ala Ala Ser Thr Ile Ala Phe Ile			
72	240	245	250	
73	tcc tat tta ggc agc ttt gca gcg caa ctg aaa aat agc agc agc agc	1178		
74	Ser Tyr Leu Gly Ser Phe Ala Ala Gln Leu Lys Asn Ser Ser Ser Ser			
75	255	260	265	
76	agt agc agc agc aac agc agc aac aac agc agc acg caa ata tta aac	1226		
77	Ser Ser Ser Ser Asn Ser Ser Asn Asn Ser Ser Thr Gln Ile Leu Asn			
78	270	275	280	285
79	gga ctt aat aaa cac tca tgg ata ttt tta ttg ata tat ttg aat tta	1274		
80	Gly Leu Asn Lys His Ser Trp Ile Phe Leu Leu Ile Tyr Leu Asn Leu			
81	290	295	300	
82	tct gct aaa gtt tgc cta gca gga tat cat gaa aag aga ctg tta cac	1322		
83	Ser Ala Lys Val Cys Leu Ala Gly Tyr His Glu Lys Arg Leu Leu His			
84	305	310	315	
85	gat ctt ttg gat cct tat aat aca cta gaa cgt ccc gtt ctc aat gaa	1370		
86	Asp Leu Leu Asp Pro Tyr Asn Thr Leu Glu Arg Pro Val Leu Asn Glu			
87	320	325	330	
88	tcg gac ccg tta caa tta agc ttt ggt tta act tta atg caa att atc	1418		
89	Ser Asp Pro Leu Gln Leu Ser Phe Gly Leu Thr Leu Met Gln Ile Ile			
90	335	340	345	
91	gat gtg gac gag aaa aat caa ttg cta gtc act aat gtg tgg tta aaa	1466		
92	Asp Val Asp Glu Lys Asn Gln Leu Leu Val Thr Asn Val Trp Leu Lys			
93	350	355	360	365
94	ctg gag tgg aac gac atg aat ctc cgc tgg aac acc tcc gac tat ggc	1514		

PAGE: 3

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/303,232A

DATE: 12/10/1999  
TIME: 15:54:32

Input Set: I303232A.RAW

95	Leu Glu Trp Asn Asp Met Asn Leu Arg Trp Asn Thr Ser Asp Tyr Gly	
96	370 375 380	
97	gga gtt aag gat ctg cga ata ccg ccg cat cgc atc tgg aag ccg gac	1562
98	Gly Val Lys Asp Leu Arg Ile Pro Pro His Arg Ile Trp Lys Pro Asp	
99	385 390 395	
100	gtg ctg atg tac aac agt gcg gat gag gga ttt gac ggc acc tac cag	1610
101	Val Leu Met Tyr Asn Ser Ala Asp Glu Gly Phe Asp Gly Thr Tyr Gln	
102	400 405 410	
103	acg aac gtg gtg gtg cgg aac aac ggc tcg tgt cta tac gtt ccg ccg	1658
104	Thr Asn Val Val Val Arg Asn Asn Gly Ser Cys Leu Tyr Val Pro Pro	
105	415 420 425	
106	ggg atc ttc aag tcg acg tgc aag atc gac atc acg tgg ttc ccc ttc	1706
107	Gly Ile Phe Lys Ser Thr Cys Lys Ile Asp Ile Thr Trp Phe Pro Phe	
108	430 435 440 445	
109	gat gac cag cgg tgc gag atg aag ttc ggc agt tgg acc tac gac gga	1754
110	Asp Asp Gln Arg Cys Glu Met Lys Phe Gly Ser Trp Thr Tyr Asp Gly	
111	450 455 460	
112	ttc cag ctg gat tta caa tta caa gat gaa act ggc ggt gat atc agc	1802
113	Phe Gln Leu Asp Leu Gln Leu Gln Asp Glu Thr Gly Gly Asp Ile Ser	
114	465 470 475	
115	agt tac gtg ctc aac ggc gag tgg gaa cta ctg ggt gtg ccc ggc aaa	1850
116	Ser Tyr Val Leu Asn Gly Glu Trp Glu Leu Leu Gly Val Pro Gly Lys	
117	480 485 490	
118	cgt aac gag atc tat tac aac tgc tgc ccg gaa ccc tat ata gac atc	1898
119	Arg Asn Glu Ile Tyr Tyr Asn Cys Cys Pro Glu Pro Tyr Ile Asp Ile	
120	495 500 505	
121	acc ttc gcc atc atc atc cgc cga cga aca ctg tac tat ttc ttc aac	1946
122	Thr Phe Ala Ile Ile Ile Arg Arg Arg Thr Leu Tyr Tyr Phe Phe Asn	
123	510 515 520 525	
124	ctg atc ata cct tgt gta ctg att gcc tcc atg gcc ttg ctc gga ttc	1994
125	Leu Ile Ile Pro Cys Val Leu Ile Ala Ser Met Ala Leu Leu Gly Phe	
126	530 535 540	
127	acc ctg ccg cca gat tcg ggt gaa aaa tta tcg ctg ggt gtt acc atc	2042
128	Thr Leu Pro Pro Asp Ser Gly Glu Lys Leu Ser Leu Gly Val Thr Ile	
129	545 550 555	
130	ttg ctc tcg ctg acc gtg ttt ctg aat atg gtt gcc gag aca atg ccg	2090
131	Leu Leu Ser Leu Thr Val Phe Leu Asn Met Val Ala Glu Thr Met Pro	
132	560 565 570	
133	gct act tcc gat gcg gtg cca ttg tgg ata cgc atc gtg ttt ttg tgc	2138
134	Ala Thr Ser Asp Ala Val Pro Leu Trp Ile Arg Ile Val Phe Leu Cys	
135	575 580 585	
136	tgg ctg cca tgg ata ttg cga atg agt cgc cca gga cga ccg ctg atc	2186
137	Trp Leu Pro Trp Ile Leu Arg Met Ser Arg Pro Gly Arg Pro Leu Ile	
138	590 595 600 605	
139	cta gag ttc ccg acc acg ccc tgt tcg gac aca tcc tcc gag cgg aag	2234
140	Leu Glu Phe Pro Thr Thr Pro Cys Ser Asp Thr Ser Ser Glu Arg Lys	
141	610 615 620	
142	cac cag ata ctc tcc gac gtt gag ctg aaa gag cgc tcg tcg aaa tcg	2282
143	His Gln Ile Leu Ser Asp Val Glu Leu Lys Glu Arg Ser Ser Lys Ser	
144	625 630 635	

PAGE: 4

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/303,232A

DATE: 12/10/1999

TIME: 15:54:32

Input Set: I303232A.RAW

```

145      ctg ctg gcc aac gta cta gac atc gat gat gac ttc cgg cac aat tgt      2330
146      Leu Leu Ala Asn Val Leu Asp Ile Asp Asp Asp Phe Arg His Asn Cys
147              640                      645                      650
148      cgc ccc atg acg ccc ggc gga aca ctg cca cac aac ccg gct ttc tat      2378
149      Arg Pro Met Thr Pro Gly Gly Thr Leu Pro His Asn Pro Ala Phe Tyr
150              655                      660                      665
151      cgc acg gtt tat gga caa ggc gac gat ggc agc att ggg cca att ggc      2426
152      Arg Thr Val Tyr Gly Gln Gly Asp Asp Gly Ser Ile Gly Pro Ile Gly
153      670                      675                      680                      685
154      agc acc cga atg ccg gat gcg gtc acc cat cat acg tgc atc aaa tca      2474
155      Ser Thr Arg Met Pro Asp Ala Val Thr His His Thr Cys Ile Lys Ser
156              690                      695                      700
157      tca act gaa tat gaa tta ggt tta atc tta aag gaa att cgc ttt ata      2522
158      Ser Thr Glu Tyr Glu Leu Gly Leu Ile Leu Lys Glu Ile Arg Phe Ile
159              705                      710                      715
160      act gat cag cta cgt aaa gat gac gag tgc aat gac att gcc aat gat      2570
161      Thr Asp Gln Leu Arg Lys Asp Asp Glu Cys Asn Asp Ile Ala Asn Asp
162              720                      725                      730
163      tgg aaa ttt gca gct atg gtc gtt gac aga ctg tgc ctt atc ata ttc      2618
164      Trp Lys Phe Ala Ala Met Val Val Asp Arg Leu Cys Leu Ile Ile Phe
165              735                      740                      745
166      aca atg ttc gca ata tta gcc aca ata gct gta cta cta tcg gca cca      2666
167      Thr Met Phe Ala Ile Leu Ala Thr Ile Ala Val Leu Leu Ser Ala Pro
168      750                      755                      760                      765
169      cat att att gtc tcg tagccatatg ggcgaggtgg ttattgttat tggttttatt      2721
170      His Ile Ile Val Ser
171              770
172      ataaaatcaa tttgttaatt attaaattaa taacgaaact ctttaagtaa attaaaaacta 2781
173      aaaagacact aaaaaagcac aaaaaaatag gaaaatacat gataaaaccc atgaactaaa 2841
174      taatacatcc aagaaaaacc aaacaaaaaa aaaaaaaaaa aaaaaa                2886
175      <210> SEQ ID NO 2
176      <211> LENGTH: 770
177      <212> TYPE: PRT
178      <213> ORGANISM: Drosophila melanogaster
179      <400> SEQUENCE: 2
180      Met Lys Asn Ala Gln Leu Lys Leu Thr Glu Val Asp Asp Asp Glu Leu
181              1              5              10              15
182      Trp Leu Ala Val Arg Leu Ala His Cys Ser Ser Asn Phe Ser Ser Ser
183              20              25              30
184      Ser Ser Thr Arg Thr Thr Ser Ser Asn Gln Arg His Asn Gln Gln Leu
185              35              40              45
186      Thr Thr Leu Gln Pro Arg Ser Leu Ser Thr Lys His His Ser Asn Ile
187              50              55              60
188      Ala Ser Glu Gln His Asn Ser Gln Gln Gln Glu Pro Ala Ser Lys Asp
189              65              70              75              80
190      Glu Asp Val Ala Asn His Gly Arg Ser Asn Asp Gln Gln Thr His Leu
191              85              90              95
192      Gln Gln Leu Asp Ser Ser Asn Met Leu Ser Pro Lys Thr Ala Ala Ala
193              100             105             110
194      Ala Thr Ala Ala Gly Asp Glu Ala Thr Thr Gln Gln Pro Thr Asn Ile

```

PAGE: 5

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/303,232A**

 DATE: 12/10/1999  
 TIME: 15:54:32

Input Set: I303232A.RAW

195		115		120		125									
196	Arg	Leu	Cys	Ala	Arg	Lys	Arg	Gln	Arg	Leu	Arg	Arg	Arg	Lys	Arg
197		130				135				140					
198	Lys	Pro	Ala	Thr	Pro	Asn	Glu	Thr	Asp	Ile	Lys	Lys	Gln	Gln	Gln
199	145					150				155					160
200	Ser	Met	Pro	Pro	Phe	Lys	Thr	Arg	Lys	Ser	Thr	Asp	Thr	Tyr	Ser
201					165					170					175
202	Pro	Ala	Ala	Thr	Thr	Ser	Cys	Pro	Thr	Ala	Thr	Tyr	Met	Gln	Cys
203				180					185					190	
204	Ala	Ser	Asp	Asn	Glu	Phe	Ser	Ile	Pro	Ile	Ser	Arg	His	Asp	Arg
205			195					200				205			
206	Ser	Thr	Ala	Thr	Phe	Ala	Trp	Val	Leu	His	Val	Leu	Gln	Val	Leu
207		210					215					220			
208	Val	Ser	Leu	Gln	Gln	Trp	Gln	Leu	His	Val	Gln	Gln	Arg	Ser	Val
209	225					230					235				240
210	Leu	Phe	Arg	Arg	Ile	Ala	Ala	Ser	Thr	Ile	Ala	Phe	Ile	Ser	Tyr
211					245					250					255
212	Gly	Ser	Phe	Ala	Ala	Gln	Leu	Lys	Asn	Ser	Ser	Ser	Ser	Ser	Ser
213				260					265					270	
214	Ser	Asn	Ser	Ser	Asn	Asn	Ser	Ser	Thr	Gln	Ile	Leu	Asn	Gly	Leu
215			275					280				285			
216	Lys	His	Ser	Trp	Ile	Phe	Leu	Leu	Ile	Tyr	Leu	Asn	Leu	Ser	Ala
217		290					295				300				
218	Val	Cys	Leu	Ala	Gly	Tyr	His	Glu	Lys	Arg	Leu	Leu	His	Asp	Leu
219	305					310				315					320
220	Asp	Pro	Tyr	Asn	Thr	Leu	Glu	Arg	Pro	Val	Leu	Asn	Glu	Ser	Asp
221				325					330						335
222	Leu	Gln	Leu	Ser	Phe	Gly	Leu	Thr	Leu	Met	Gln	Ile	Ile	Asp	Val
223			340						345					350	
224	Glu	Lys	Asn	Gln	Leu	Leu	Val	Thr	Asn	Val	Trp	Leu	Lys	Leu	Glu
225			355					360				365			
226	Asn	Asp	Met	Asn	Leu	Arg	Trp	Asn	Thr	Ser	Asp	Tyr	Gly	Gly	Val
227		370					375				380				
228	Asp	Leu	Arg	Ile	Pro	Pro	His	Arg	Ile	Trp	Lys	Pro	Asp	Val	Leu
229	385					390				395					400
230	Tyr	Asn	Ser	Ala	Asp	Glu	Gly	Phe	Asp	Gly	Thr	Tyr	Gln	Thr	Asn
231				405					410						415
232	Val	Val	Arg	Asn	Asn	Gly	Ser	Cys	Leu	Tyr	Val	Pro	Pro	Gly	Ile
233			420						425					430	
234	Lys	Ser	Thr	Cys	Lys	Ile	Asp	Ile	Thr	Trp	Phe	Pro	Phe	Asp	Asp
235			435					440				445			
236	Arg	Cys	Glu	Met	Lys	Phe	Gly	Ser	Trp	Thr	Tyr	Asp	Gly	Phe	Gln
237		450					455				460				
238	Asp	Leu	Gln	Leu	Gln	Asp	Glu	Thr	Gly	Gly	Asp	Ile	Ser	Ser	Tyr
239	465					470				475					480
240	Leu	Asn	Gly	Glu	Trp	Glu	Leu	Leu	Gly	Val	Pro	Gly	Lys	Arg	Asn
241				485					490						495
242	Ile	Tyr	Tyr	Asn	Cys	Cys	Pro	Glu	Pro	Tyr	Ile	Asp	Ile	Thr	Phe
243				500					505					510	
244	Ile	Ile	Ile	Arg	Arg	Arg	Thr	Leu	Tyr	Tyr	Phe	Phe	Asn	Leu	Ile

PAGE: 6

VERIFICATION SUMMARY  
PATENT APPLICATION US/09/303,232A

DATE: 12/10/1999  
TIME: 15:54:32

Input Set: I303232A.RAW

Line ? Error/Warning

Original Text

-----